

Central Halley Seeds, Inc.

There has been presented to the

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PEANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT (S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE O EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR ing it, or exporting it, or conditioning it for propagation, or stocking it for any of the E PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT ED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

LETTUCE

'King Royale'

In Testimonn Mucros, I have hereunto set my hand and caused the seal of the Mant Mariety Protection Office to be affixed at the City of Washington, D.C. this twentieth day of August, in the year two thousand and sight.

Colmand . Schaf

Plant Varioty Protection Office Agricultural Marketing Service

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

	ornation rispan carries proteotion and re-	and it portaines.	
SIGNATURE OF OWNER		SIGNATURE OF OWNER	
NAME (Please print or type)	wels		
NAME (Please print or type)		NAME (Please print or type)	
TONY M. AVILA			
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
Vice President/ R & D	04-72-0	✓ Vice President/ R & D	

(See reverse for instructions and information collection burden statement)

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificates. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office Telephone: (301) 504-5518 FAX: (301) 504-5291

Homepage: http://www.ams.usda.gov/science/pvpo/pvpindex.htm

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 http://www.ams.usda.gov/lsg/seed.htm.

ITEM

- 19a. Give:
- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
- (2) the details of subsequent stages of selection and multiplication;
- (3) evidence of uniformity and stability; and
- (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
 - (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
- 20. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
- 23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
- 24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.
- 22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)
- 23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

 06/02/06
- 24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

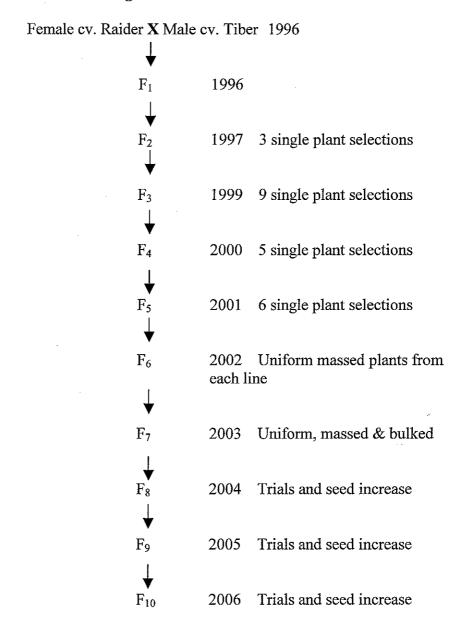
According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Exhibit A. Origin and Breeding History of Lettuce 'King Royale' CVX-32

Pedigree of CVX-32



Lettuce 'King Royale' CVX-32 was originated in 1996 from a manmade cross between cv. Raider (PVP 8900281) and cv. Tiber, a USDA release. Cv. Raider was chosen as a female for its resistances to bolting and tipburn, sure heading under extreme hot weather and tolerance to rib discoloration. Cv. Tiber was selected as a male for its dark green leaf color, Salinas type leaf texture, round head shape and earlier harvest maturity. Single plant selections were made in subsequent years in the lettuce growing regions for potential commercialization. By generation F₅ a group of six individuals plants were judged be uniform for 100% heading under warm and hot weather having dark green leaf color with Salinas type texture, no tip burn and an extended wrapper leaf

to cover the head from intense sun damage known as sunscald. In 2002, the F_6 progenies were planted and trialed in Winterhaven, California. Plants from all six lines were uniform and stable and displayed characteristics based on selection criteria. In 2003, the F_7 generation seeds were massed and bulked from all progenies from all six lines and a seed increase was produced. The harvested seeds were re-labeled as CVX-32. In the subsequent generations additional replicated field trials and observations were conducted in the lettuce production areas of Five Points, California.

For pedigree selection, a combination of both single and mass plant selection practices were used. By year 2006, 'King Royale' was deemed to be a new head lettuce cultivar under our selection criteria for 100% heading under warm and hot weather having dark green leaf color with Salinas type texture, no tip burn and an extended wrapper leaf to cover the head from sunscald when compared to the most similar variety, cv. Laguna Fresca.

During multiple seed increases and field trials, covering generations F_6 to F_{10} , we observed that lettuce 'King Royale' CVX-32 is genetically uniform and stable and no genetic variants or off-types have been observed in subsequent generations.

Exhibit B. Statement Of Distinctness

Statistical Analysis

Measurable characteristics were assessed in several localities or dates and the results were analyzed separately. Unless otherwise indicated, the statistical analyses were performed using T-test. The results presented in actual t-value and probability values p[t] and are statically different at the 95% confidence level.. The standard of deviation for each variety in the comparisons is presented in sigma value. LSD mean 95% corresponds to Least Significant Difference between the means at the 95% probability level.

Statement Of Distinctness

'King Royale' CVX-32 belongs to the crisphead Salinas type lettuce, *Lactuca sativa* L. varieties. 'King Royale' is described as a vigorous cultivar and adapted for the central California warm regions (i.e. King City/Gilroy) with optimum sowing during the summer planting season. 'King Royale' was selected for improved head size uniformity, increased weight, smooth mid ribs, dark green leaf color with Salinas type texture, resistance to tip burn and with a extended wrapper leaf to cover and protect the head from sunscald.

Phenotypically, 'King Royale' is distinct from most of the commercial crisphead cultivars and in particular to its most similar variety grown under the same period and environmental conditions, cv. Laguna Fresca.

'King Royale' also varies form cv. Laguna Fresca in that in average it has a larger head diameter (15.82 cm Vs. 15.28 cm), its' weight is significantly heavier (1257.56 g Vs. 1134.69 g), its' core length is significantly shorter (6.52 cm Vs. 7.38 cm), its' core diameter at the base is smaller (3.55 cm Vs. 4.46 cm), its' leaf length is shorter (26.31 cm Vs. 28.44 cm), and its' leaf width is slightly greater (37.51 cm Vs. 36.02 cm). Furthermore, 'King Royale' also varies form cv. Laguna Fresca in the core shape based on the core volume coefficient calculations (23.23 Vs. 33.08) and also based on the leaf length index (0.70 Vs. 0.79).

Characteristic

	'King Royale'	Vs	'Laguna Fresca'
Seed color	Black		White
Margin indentation	Entire		Shallowly dentate
Glossiness	Moderate		Glossy
Blistering	Absent/slight		Moderate

Table below is the evaluation of 'King Royale' and the most similar cultivar, cv. Laguna Fresca, for several important field traits.

	Trial	No. Plants/	t*-value		Avg. 'King	Avg. 'Laguna	LSD Mean	
Variable	Location	Rep		<i>p</i> [t*]	Royale'	Fresca'	95%	Sigma
Head Diameter (cm)	1	15	2.740	0.018	15.55	15.14	0.33	0.55
	2	15	2.297	0.044	16.01	15.65	0.35	0.58
	3	15	4.852	0.000	15.78	15.04	0.34	0.57
	4	15	3.771	0.002	15.60	15.10	0.30	0.49
	5	15	4.130	0.001	16.07	15.69	0.21	0.34
	6	15	8.036	0.000	15.89	15.08	0.22	0.37
Avg. Head Diameter (cm)					15.82	15.28		
Plant Weight (g)	1	15	4.074	0.001	1358.67	1186.00	94.77	158.03
	2	15	2.817	0.015	1266.67	1157.33	86.79	144.73
	3	15	5.108	0.000	1136.00	1022.60	49.90	83.21
	4	15	4.152	0.001	1336.00	1220.90	62.48	104.18
	5	15	4.770	0.000	1285.33	1148.00	64.38	107.35
	6	15	4.747	0.000	1162.67	1073.33	42.08	70.17
Avg. Plant Weight (g)	-				1257.56	1134.69		
Core Length (cm)	1	15	2.320	0.043	6.49	7.02	0.51	0.85
	2	15	4.447	0.000	7.29	8.33	0.52	0.87
	3	15	2.703	0.020	5.73	6.48	0.62	1.04
	4	15	3.676	0.002	6.51	7.15	0.39	0.64
	5	15	7.100	0.000	7.22	8.35	0.35	0.59
	6	15	6.246	0.000	. 5.85	6.97	0.40	0.66
Avg. Core Length (cm)		1.5	46000		6.52	7.38		
Core Diameter (cm)	1	15	16.023	0.000	3.79	4.51	0.10	0.17
	2	15	19.674	0.000	3.58	4.63	0.12	0.20
	3	15	13.633	0.000	3.15	4.13	0.16	0.27
	4	15	25.982	0.000	3.81	4.55	0.06	0.11
	5	15	26.943	0.000	3.70	4.71	0.08	0.14
A 60 B:	6	15	15.564	0.000	3.27	4.24	0.14	0.23
Avg. Core Diameter (cm)		100000000000000000000000000000000000000	0.417	0.005	3.55	4.46	0.00	1.50
Leaf Length (cm)	1	15 15	2.417	0.035	26.49	27.48	0.92	1.53
	2	15	5.142	0.000	25.07	27.77	1.17	1.96
	3 4	15	4.919	0.000	26.60	29.57	1.35	2.25
	5	15	3.129	0.008	26.82	27.73	0.65	1.08
	6	15	6.988 5.512	0.000	25.70	28.05	0.75	1.26
Avg. Leaf Length (cm)	0		5.512		27.18	30.03	1.15	1.93
Leaf Width (cm)	1	15	1.488	0.184	26.31 37.70	28.44 36.71	1.48	2.47
Don Wide (Onl)	2	15	2.204	0.184	37.70	36.71	1.48	2.47
***************************************	3	15	2.825	0.033	36.53	34.53	1.71	2.64
	4	15	1.781	0.013	37.79	37.01	0.99	1.65
100000	5	15	3.340	0.005	37.79	36.57	0.95	1.59
	6	15	5.402	0.003	37.99	35.13	0.86	1.39
Avg. Leaf Width (cm)	U	اب 1	J.704	0.000	37.51	36,02	0.00	1.44
^a Core volume coefficient	1	15	6.351	0.000	24.59	31.72	2.51	4.18
Colo rotalile coefficient	2	15	11.68	0.000	26.09	38.60	2.39	3.99
	. 3	15	7.316	0.000	18.04	26.80	2.68	4.47
	4	15	9.666	0.000	24.77	32.53	1.80	3.00
	5	15	14.683	0.000	26.72	39.31	1.92	3.20
	J	1.7	17.000	0.000	20.12	J7.J1	1.74	02.0

	6	15	12.616	0.000	19.17	29.52	1.84	3.06
Avg. Core vol. coefficient					23.23	33.08		
^b Leaf Length Index	1	15	2.799	0.016	0.70	0.75	0.04	0.06
	2	15	5.094	0.000	0.66	0.77	0.05	0.08
	3	15	5.903	0.000	0.73	0.86	0.05	0.08
	4	15	3.634	0.002	0.71	0.75	0.02	0.04
	5	15	9.095	0.000	0.68	0.77	0.02	0.04
	6	15	7.296	0.000	0.73	0.86	0.04	0.06
Avg. Leaf Length Index	100000				0.70	0.79		

 $p[t^*]$ statically different at the 95% confidence level.

Field Trial Locations:

- Rio Farms, Johnson Ranch Lot 212, King City, California. Water date: 5/19/2005, Evaluation date: 7/28/2005.
- Rio Farms, Johnson Ranch, lot 216, King City, California. Water date: 5/22/2005, Evaluation date: 8/1/2005.
- 3. CA Rio Farms Delarosa Ranch, lot 312. King City, California. Water date: 7/6/2006, Evaluation date: 9/7/2006.
- 4. Rio Farms, Gill Lot#4, King City, California. Water date: 5/25/2006. Evaluation date: 8/4/2006.
- Rio Farms, KCS lot 35, King City, California. Water date: 6/15/2006. Evaluation date: 8/26/2006.
- 6. Rio Farms, Johnson Lot# 216, King City, California. Water date: 7/4/2006. Evaluation date: 9/8/2006.

^aCore volume coefficient. Calculated by taking the core length and multiplied by diameter which compares the core shapes. The larger the core volume coefficient value, the longer and narrower is the core. Inversely, the smaller the core volume coefficient number, the shorter and stubbier the core.

^aLeaf Length Index: Differences in the leaf shape between the two varieties. This is calculated by dividing the total leaf length by the leaf width.

Exhibit C

REPRODUCE LOCALLY. Include form number and date on all reproductions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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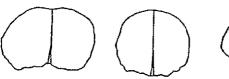
U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY **PLANT VARIETY PROTECTION OFFICE** BELTSVILLE, MD 20705

Lettuce (Lactuca sativa L.)

OBJECTIVE DESCRIPTION OF VARIETY

				•
NAME OF APPLICANTIS) Central Valley See	` .	OR EXPERIMENTAL DESIGNATION JX — 32	VARIETY NAME	Royale
ADDRESS (Street and No. or RD No., City, State, Zip C		#10	FOR OFFICIAL PVPO NUMBER # 2	0 7 0 0 3 0 3
Place the appropriate number that describe either 99 or less or 9 or less. Measur recognized color standard may be used	ed data should be the mean of		o in the first box (e.g. 0 9 9	or 0 9) when number
The Location of the Test Area is:	alifornia	Color System L	Jsed: MUNSELL	
SPECIFIC VARIETIES USED FOR COI your area. One of the comparison variet Application Variety (a1) Standard Regional Check Variety (c2)	ties must be the most similar va			arieties, which are adapted to
1. PLANT TYPE: (See List of Suggester 01 = Cutting/Leaf 02 = Butterhead 03 = Bibb	04 = Cos or Romaine 05 = Great Lakes Group 06 = Vanguard Group	07 = Salinas Group 08 = Eastern (Ifhaca) Group 09 = Stem (c1)	10 = Latin 11 = Other (Specify) (c2)	
2. SEED: (a1)	Gray) 1 = 2	SHT DORMANCY = Light Required = Light Not Required	(a1)	ole
3. COTYLEDON TO FOURTH LEAF S	TAGE: NOTE: Provide a color pr	photograph or photocopy of th	ne fourth leaf from 20 day-old se	edling grown under optimal
SHAPE OF COTYLEDONS:	1 = Broad 2 = Intermed	ediate 3 = Spatulate (c1)	(c2)	
SHAPE OF FOURTH LE	:AF: (a1)	(c1) 3	(c2)	8,
•				_

3. COTYLEDON TO FOURTH LEAF STAGE: (continued)







2. Round



3. Oval

4. Elongated



Lanceolate



6. Pinnately lobed

LENGTH/WIDTH INDEX OF FOURTH LEAF: L/W x 10

(a1)	Z	8
٠,	_	_

APICAL MARGIN:

1 = Entire

2 = Crenate/Gnawed 3 = Finely Dentate

4 = Moderately Dentate 5 = Coarsely Dentate

7 = Lobed

8 = Other (Specify)

(a1)

6 = Incised

(c1)

H

BASAL MARGIN: (Use the options for Apical Margin above)

(a1)

(c1)

UNDULATION:

1 = Flat

2 = Slight

3 = Medium

4 = Marked

(c1)

GREEN COLOR: 1 = Yellow Green

2 = Light Green

3 = Medium Green 4 = Dark Green

5 = Blue Green 6 = Silver Green 7 = Grey Green

(a1)

(a1)

(c1)

(c2)

ANTHOCYANIN:

DISTRIBUTION:

1 = Absent

2 = Margin Only

3 = Spotted 4 = Throughout

5 = Other (Specify)

(a1)

(c1)

CONCENTRATION:

1 = Light

2 = Moderate

3 = Intense

(a1)

(c1)

(c2)

ROLLING:

1 = Absent

2 = Present

(c1)

(c2)

CUPPING:

2 = Slight

1 = Uncupped

3 = Markedly

(a1)

(c1)

(c2)

REFLEXING:

1 = None

2 = Apical Margin

3 = Lateral Margins

(a1)

(a1)

(c1)

(c2)

4. MATURE LEAVES (Observe Harvest-Mature Outer Leaves)

MARGIN:				
INCISION DEPTH: (deepest penetration of the margin)	1 = Absent/Shallow (Da	ark Green Boston)	2 = Moderate (Vanguan	d) 3 = Deep (Great Lakes 659)
or the marging	(a1)	2	(c1) 2	(c2)
INDENTATION: (Finest of	divisions of the margin)			
	1 = Entire (Dark G 2 = Shallowly Den 3 = Deeply Dentai	reen Boston) tate (Great Lakes 65) e (Great Lakes 659)	4 = Crenate (Vanguar 5 = Other (Specify)	d)
	(a1)	I.	(c1) 2	(c2)
UNDULATIONS OF THE APICAL MARGIN:	1 = Absent/Slight 3 = Strong (Great		2 = Moderate (Vanguard)	
	(a1)	2	(c1) 2	(c2)
GREEN COLOR:	1 = Very Light Gre 2 = Light Green (N		um Green (Great Lakes) Green (Vanguard)	5 = Very Dark Green 6 = Other (Specify)
	·(a1)	5	(c1)	(c2)
ANTHOCYANIN:				
DISTRIBUTION:	1 = Absent 2 = Margin Only (E	3 = Spo Sig Boston) 4 = Thr	otted (California Cream Butto oughout (Prize Head)	er) 5 = Other (Specify)
	(a1)		(c1)	(c2)
CONCENTRATION:	1 = Light (Iceberg)	2 = Mode	rate (Prize Head) 3 = Inte	ense (Ruby)
	(a1)		(c1)	(c2)
SIZE:	1 = Small (a1)	2= Mediu	n 3 = Lar (c1) 3	ge (c2)
GLOSSINESS:	1 = Dull (Vanguard		erate (Salinas) 3 :	= Glossy (Great Lakes)
	(a1)	02	(c1) O 3	(c2)
	bsent/Slight (Salinas)	2 = Moderate (Vanguard)	3 = Strong (Prize Head)	
	(a1)	II	(c1) O 2	(c2)
LEAF THICKNESS:	1 = Thin (a1)	2 = Intermediate	3 = Thick (c1)	(c2)
TRICHOMES: 1 = A	bsent (Smooth)	2 = Present (Spiny)		
	(a1)	<u> </u>	(c1) O	(c2)
LANT:				
EAD OF FRAME LEAVES:	(a1)	38 cm	(c1) 36 cm	(c2) cm

,						
5. PLANT: (continued)						
HEAD DIAMETER: (Market Trimmed	l with Single Cap Le	af)				
	(a1)	16 cm	(c1) \ \ \ \ \ \ \ cm	(c2)	cm	
HEAD SHAPE:	1 = Flattened	3 = Spherical	5 = Non-Headin	a		
6 = Other (Specify)	2 = Slightly Flatte	ned 4 = Elongate	,	9		
((a1)	03	(c1) 53	(c2)		
	(4.)		(ci) D	(62)	<u></u>	
HEAD SIZE CLASS:	1 = Small	2 = Medium	3= Large			
	(a1)	03	(c1) D 2	(c2)		
HEAD BED CARTON						
HEAD PER CARTON:		<u> </u>		i		
	(a1)	24	(c1) 24	(c2)		
HEAD WEIGHT:						
	(a1)	1258 g	(c1) 113S	g. (c2)	g.	
				_		
HEAD FIRMNESS:	1 = Loose	2 = Moderate	3= Firm	4 =	Very Firm	
	(a1)	4	(c1) 3	(¢2)		
6. BUTT:		<u> </u>	***************************************		***************************************	
SHAPE:	1 = Slightly Conc	ave 2 = Flat	3 = Rounded			
· V	<u></u>	<u>Z</u>		(-a)		
	(ai) <u>[</u>		(c1) 2	(c2) <u>[</u>		
MIDRIB:	1 = Flattened (Sa	inas) 2 = Moderate	ly Raised 3 = Pro	ominently Raised	(Great Lakes 659)	
	(a1)		(c1) [[(c2)		
7. CORE:	*****					
DIAMETER AT BASE OF HEAD:	: (a1)	36 mm	(c1) ਪ ੍ਰਿ ਟ mm	(c2)	mm	
				L		
RATIO OF HEAD DIAMETER/CO		04.4	নিহ ত	Γ		
	(a1)		(c1)	(c2) L		
CORE HEIGHT FROM BASE OF	HEAD TO APEX:					
	(a1)	65 mm	(c1) 74 mm	(c2)	mm	
Market and a self-self-self-self-self-self-self-self-	./ .1 -1					
8. BOLTING: (Give First Water Date:	4/26/06) NOTE: First Wate can and	r Date is the date seed often does equal the pla	first receives ade anting date.	equate moisture to ger	minate. This
NUMBER OF DAYS FROM FIRST	WATER DATE TO S			-		
	(a1)	סדוע	(c1) 078	(c2)		
	` ' L	-1119		()		
BOLTING CLASS:	1 = Very Slow 2 = Slow	3 = Medium 5 = 4 = Rapid	Very Rapid			
• •	(a1)	2	(c1) 2	(02)		
	(41)		(01)	(c2)		
HEIGHT OF MATURE SEED STALI	K :					is
ST-470-1 (04-05) designed by the Plant Variety Pr	rotection Office using Mic	rosoft Word 2003.	123			Page 4 of 9

			(a1)	cm	(c1)		cm (c2)	cm
8. BOLTING: (continued)								
SPREAD OF	BOLTER PLAN	T: (At widest	point)						
			(a1) 3	cm	(c1)	46	(c2)	cm
BOLTER LEA	NVES: 1	= Straight	2 = Curved	٦	(c1)		(c2)	
MARGIN:	1 = Entire 2	= Dentate							
			(a1) 2		(c1)	2	(c2)	
COLOR:	1 = Light Gr	een 2 = M	ledium Green 3 (a1) 3	, ·	(c1)	2	(1	c2)]
BOLTER HAE	BIT:								
TERMINAL	INFLORESCE	NCE: 1 = A	bsent 2	2 = Present					_
			(a1) 2		(c1)	2	(c2)]
LATERAL S	зноотѕ:	·	1 = Absent	1	(c1)	2	((c2)	
BASAL SID	E SHOOTS:		1 = Absent (a1)	2 = Present	(c1)		((c2)	
9. MATURITY:									
NOTE: Comple						1			·
SEASON	1	ATION VARIE o. of Days ¹	= I Y	MOST SIMILAR VA		SIAND	ARD REGI		ECK VARIETY of Days ¹
Spring									
Summer	65	-		<u> </u>					
Fall								ļ	
Winter First Water Date	e to Harvest								
Give Planting Date		on(s):							
Spring: _		.,							
Summer:	5/19/0	b -	7/2	8/06 t	SIA 6	City	.Ca	4	rnia
Fall:	, , , , ,) ' ' ['		, -	
Winter:								****	
40 ADADTATIO	A1.								
10. ADAPTATIO	IN. REGIONS OF A	DARTATION	feeted and pro	van adantad):					
0 = Not Test			= Adapted	ren auapteu).					
(A)			[A]						
	est (CA and/or Central	AZ desert)		Vest Coast Southeast		North	east ·(Specify) _		

•					
10. ADAPTATION: (Continued)					
SEASON:					
Spring (Area)	Fall (Area)	
Z Summer (Area Kin Cit	y Cilcu CA	Winter (Area)	
	110111111	<u> </u>		···············	
GREENHOUSE: 0 = Not To	ested 1 = Not A	dapted 2 = Ada _l	pted		
SOIL TYPE: 1 = Miner	al 2 = Organ	nic 3 = Both	1		
44 1/1044 01054050					
11. VIRAL DISEASES:					
	5 = Moderately Resistant		7 = Susceptible	9 = Highly Susceptible	
Big Vein	(a1) [2]	(c1) D	(c2)	•	
Lettuce Mosaic	(a1)	(c1)	(c2)		
Cucumber Mosaic	(a1)	(c1)	(c2)		
Tomato Bushy Stunt, cause of dieback	(a1)	(c1)	(c2)		
Turnip Mosaic	(a1)	(c1)	(c2)		
Beet Western Yellows	(a1)	(c1)	(c2)		
Lettuce Infectious Yellows	(a1)	(c1)	(c2)		
Other (Specify)	(a1)	(c1)	(c2)		
		· /			
12. FUNGAL/BACTERIAL DISEASES:					
1 = Immune 3 = Resistant	5 = Moderately Resistant	Moderately Susceptible	7 = Susceptible	9 = Highly Susceptible	
Corky Root Rot	(a1)	(c1) 3	(c2)		
(Races:		2			
Downy Mildew	(a1)	(c1)	(c2)		
(Races:)`				
Powdery Mildew	(a1)	(c1)	(c2)		
Sclerotinia Drop	(a1) 5	(c1) 5	(c2)		
Bacterial Soft Rot (Pseudomonas spp. and others)	(a1)	(c1)	(c2)		
	(.0)				
Botrytis (Grey Mold)	(a1)	(c1)	(c2)		
Verticillium Wilt	(a1)	(c1)	(c2)		
Bacterial Leaf Spot	(a1)	(c1)	(c2)		
Anthracnose	(a1)	(c1)	(c2)		
Other (Specify)	(a1)	(c1)	(c2)		
13. INSECTS:					
1 = Immune 3 = Resistant	5 = Moderately Resistant/	Moderately Susceptible	7 = Susceptible	9 = Highly Susceptible	
			,		
Cabbage Loopers	(a1)	(c1)	(c2)		
Root Aphids		i 1	(-0)		
	(a1)	(c1)	(c2)		
Green Peach Aphid	(a1) (a1) (a1)	(c1) (c1)	(c2) C2)		

#200700303 Exhibit C (Lettuce)

	Pea Leafminer	(a1)	(c1)	(c2)	
	Other (Specify)	(a1)	(c1)	(c2)	
14.	PHYSIOLOGICAL STRESSES:				
	1 = Immune 3 = Resistant	5 = Moderately Resista	nt/Moderately Susceptible	7 = Susceptible	9 = Highly Susceptible
	Tipburn	(a1) 3	(c1) 3	(c2)	
	Heat	(a1)	(c1)	(c2)	
•	Drought	(a1)	(c1)	(c2)	
	Cold	(a1)	(c1)	(c2)	
•	Salt	(a1)	(c1)	(c2)	
	Brown Rib (Rib Discoloration, Rib Blight)	(a1)	(c1)	(c2)	
	Other (Specify)	(a1)	(c1)	(c2)	
15.	POST HARVEST STRESS:				
	1 = Immune 3 = Resistant	5 = Moderately Resistar	nt/Moderately Susceptible	7 = Susceptible	9 = Highly Susceptible
	Pink Rib	(a1)	(c1)	(c2)	
	Russet Spotting	(a1)	(c1)	(c2)	
	Rusty Brown Discoloration	(a1)	(c1)	(c2)	
	Internal Rib Necrosis (Blackheart, Grey Rib, Grey Streak)	(a1)	(c1)	(c2)	
	Brown Stain	(a1)	(c1)	(c2)	
16.	BIOCHEMICAL OR ELECTROPHORE	TIC MARKERS:			
		no in unitario.			

17. COMMENTS:

SUGGESTED CHECK VARIETIES

Cutting/Leaf
 Butterhead
 Bibb
 Cos or Romain
 Great Lakes Group
 Vanguard Group
 Salinas Group
 Eastern Group
 Stem

10

Latin

TYPE

CHECK VARIETY
Waldmann's Green
Dark Green Boston
Bibb
Parris Island
Great Lakes 659-700
Vanguard
Salinas
Ithaca
Celtuce
Little Gem

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Michelmore, R.W., J. M. Norwood, D.S. Ingram, I.R. Crute and P. Nicholson. 1984. "The interitance of virulence in Bremia lactucae to match resistance factors 3, 4, 5, 6, 8, 9, 10, and 11 in lettuce (Lactuca sativa)", Plant Pathology 32:176-177.

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Ryder, E.J., 1999, Lettuce, Endive, and Chicory, CABI Publications, Wallingford, UK.

Lettuce 'King Royale'

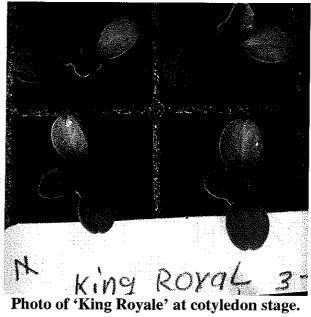
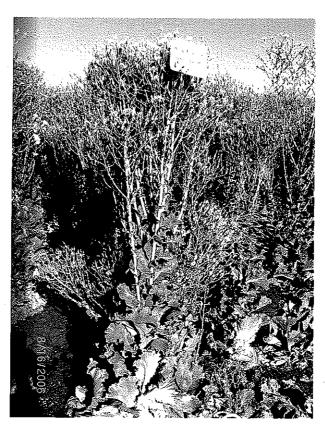




Photo of 'King Royale' fourth leaf taken from a 20-day-old seedling grown under optimum conditions.



'King Royale' crisphead lettuce at harvest ready stage.



'King Royale' crisphead lettuce at seed stage. Central Valley Seeds' commercial seed production field, Five Points, California.

REPRODUCE LOCALLY. Include form number and edition date on al	l reproductions.	FORM APPROVED - OMB No. 0581-0058
U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE	Application is required in order to de certificate is to be issued (7 U.S.C. 2	2421). The information is held
EXHIBIT E STATEMENT OF THE BASIS OF OWNERSHIP	confidential until the certificate is iss	ued (7 U.S.C. 2426).
1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION	3. VARIETY NAME
`,	OR EXPERIMENTAL NUMBER	O. VANUET I VANVIE
CENTRAL VALLEY SEEDS, INC.	CVX-32	KING ROYALE
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)	5. TELEPHONE (include area code)	6. FAX (Include area code)
485 VICTOR WAY, SUITE 10	(831) 757-0939	(831) 757-6829
SALINAS, CA 93907	7. PVPO NUMBER	
	7.1 VI GROWBER	#200700303
8. Does the applicant own all rights to the variety? Mark an "X" in the	e appropriate block. If no, please expl	ain. YES NO
9. Is the applicant (individual or company) a U.S. national or a U.S. b	pased company? If no, give name of c	country. YES NO
10. Is the applicant the original owner? YES	NO If no, please answer one	of the following:
a. If the original rights to variety were owned by individual(s), is ((are) the original owner(s) a U.S. Nation	nal(s)?
YES	NO If no, give name of coun	
	~~	
b. If the original rights to variety were owned by a company(ies),	, is (are) the original owner(s) a U.S. ba	
11. Additional explanation on ownership (Trace ownership from origin	nal breeder to current owner. Use the r	everse for extra space if needed):
The variety named in this application was developed by Central V developed by Central Valley Seeds, Inc. are assigned to the Comp	pany and no rights to such invention, d	iscovery or development are retained
by the employee(s). Tony M. Avila, Plant Breeder/Research and I Royale that has been entered in this Plant Variety Protection appli Tony M. Avila, Dan M. Avila, Joe M. Avila and John M. Avila and	ication for Central Valley Seeds. Inc.	
PLEASE NOTE:		
Plant variety protection can only be afforded to the owners (not licens	•	
 If the rights to the variety are owned by the original breeder, that penaltional of a country which affords similar protection to nationals of 	erson must be a U.S. national, national f the U.S. for the same genus and spec	of a UPOV member country, or ies.
If the rights to the variety are owned by the company which employ nationals of a UPOV member country, or owned by nationals of a o genus and species.	red the original breeder(s), the compan country which affords similar protection	y must be U.S. based, owned by to nationals of the U.S. for the same
3. If the applicant is an owner who is not the original owner, both the $\boldsymbol{\alpha}$	original owner and the applicant must n	neet one of the above criteria.
The original breeder/owner may be the individual or company who dir Act for definitions.	rected the final breeding. See Section	41(a)(2) of the Plant Variety Protection
According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, control number. The valid OMB control number for this information collection is 0581-0055. including the time for reviewing the instructions, searching existing data sources, gathering a	The time required to complete this information colle	ction is estimated to average 0.1 hour per recorned

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provide and employer.

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> U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE SCIENCE AND TECHNOLOGY **PLANT VARIETY PROTECTION OFFICE** BELTSVILLE, MD 20705

EXHIBIT F DECLARATION REGARDING DEPOSIT

NAME OF OWNER (S)	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country)	TEMPORARY OR EXPERIMENTAL DESIGNATION
CENTRAL VALLEY SEEDS, INC.	485 VICTOR WAY, SUITE 10 SALINAS, CA 93907	CVX-32
		VARIETY NAME KING ROYALE
NAME OF OWNER REPRESENTATIVE (S) TONY M. AVILA	ADDRESS (Street and No. or RD No., City, State, and Zip Code and Country) 485 VICTOR WAY, SUITE 10 SALINAS, CA 93907	PVPO NUMBER # 2 0 0 7 0 0 3 0 3

I do hereby declare that during the life of the certificate a viable sample of propagating material of the subject variety will be deposited, and replenished as needed periodically, in a public repository in the United States in accordance with the regulations established by the Plant Variety Protection Office.